

X¹⁵ LI-PO BALANCER USER MANUAL



Special features

ADVANCED BALANCING PROGRAM

Li-Po Balancer controls the charging current adequately to equalize the voltage of each cell in the battery pack being charged by the internal microprocessor. To do this may drain the current to drop the voltage of the cell being higher. Li-Po Balancer communicates with every X-15 chargers via temperature sensor port of the charger so can monitor the voltage of each cell at the display screen of the charger.

COMPATIBILITY WITH OTHER BRANDS OF CHARGER

Li-Po Balancer can be used with any of chargers having Li-Polymer charging function. But you need to pay attention to operate the Li-Po Balancer properly to equalize the voltage perfectly. Please read "Warning and safety notes" carefully.

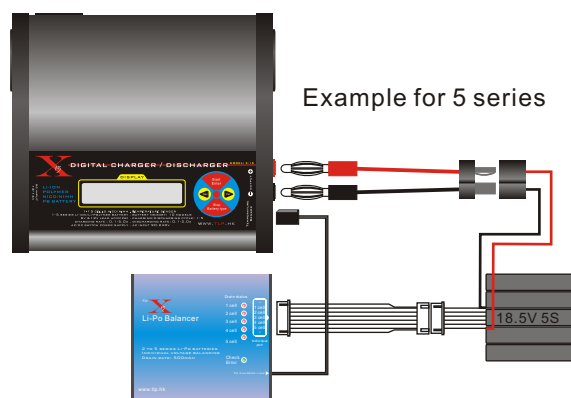
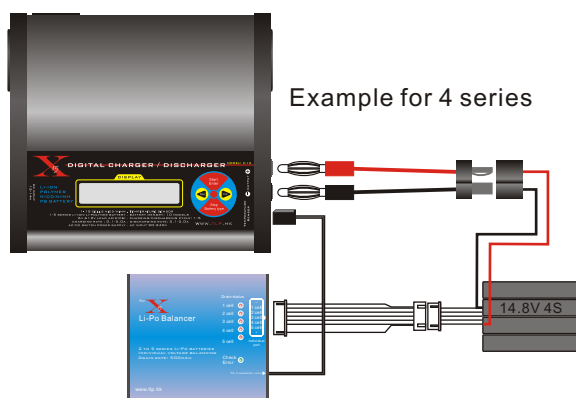
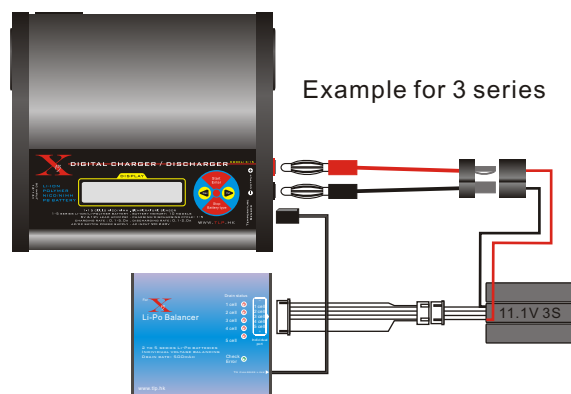
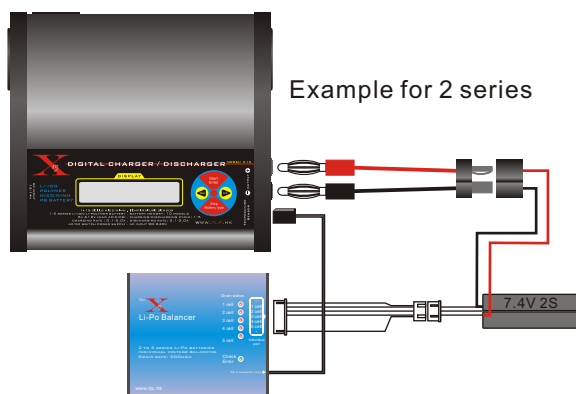
SELF-BALANCING WITHOUT THE CHARGER

Li-Po Balancer can be self-operative without linking to charger. When you connect the battery pack to the individual port of Li-Po Balancer the balancing job will be started instantly. In this case the individual cell voltages will be equalized to the least cell voltage of the battery pack. But if the voltage of peculiar cell is less than 3.0V it will be ignored. And the balancing job will be performed without the cell.

LED DISPLAY

Five red LED's represent each of five cells will blink on discharging. A green 'CHECK' LED will be blinking during the process. And they show error status also, please refer 'LED indication'.

Connection diagram



When the battery pack connected to Li-Po Balancer, there should not be short-circuit on 'individual' port. The circuit of Li-Po Balancer will be damaged.

When used with other brand of charger, the connection diagram is same except 'Chager link' cable .

Use a right connector that matches with the battery pack being charged among connectors.

On operating of self-balancing, you do not need to connect the output of battery pack to any port.

When the job finished, all LED's will not blink anymore. (There will not be the buzzer sound to avoid from wasting the current that may cause imbalance.)

LED indication

Drain status	
1 cell	○
2 cell	○
3 cell	○
4 cell	○
5 cell	○
Check Error	○

Normal status

1> 'Check' LED: blinking one times regularly
2> 1-5 cell LED's, blinking when discharged

Error status

1> When the battery pack is connected to Li-Po Balancer, the processor recognize cells are above 2.0V. Then all appropriated LED's and 'Check' LED will blink three times. But if the voltage of any one cell is detected below 2.0V for about 60 seconds by any reason, 'Check' LED will blink twice and the buzzer sounds twice repeatedly. This status will be continued until the problem is eliminated. Or the job will be terminated forcibly to protect the battery.
2> if the voltage of any peculiar cell is higher than 4.23V during the job, 'Check' LED will blink one time and the beep will sound one time repeatedly until the voltage goes to below 4.23V. But if this happens, we recommend to stop the procedure. And you need to perform the self-balancing with the battery pack before doing the job again.
3> If the pin assignment of battery pack or the connector has a faulty connection, LED of corresponding cell and 'Check' LED will keep on blinking until the error is removed.
4> The blinking LED indicates discharging during balancing job. All LED will be off at the completion of balancing job.

Warnings and safety notes

=> Be sure that every components are connected to be connected properly. Please refer the connection diagram. Use the right connector that suits with the battery pack being charged to link to Li-Po Balancer.
=> The internal FET's emit heat which can cause the temperature of unit raise. Li-Po Balancer should be set up on a head-resistant , non-inflammable and non-conductive surface. Never place them on a car seat, carpet or similar. Keep all inflammable volatile materials well away from operating area.
=> Using Li-Po Balancer with other brand of charger than X-15 series
You need to set charge current lower than 0.5A regardless of the battery's capacity at your charger. If you do not so, the voltage of battery being charged may raise higher instantly because of higher feeding current. As a result, the final voltage of battery pack can be calculated from the sum of voltages of each cell then the charger will finish the process before the completion of balancing.
Even though Li-PO Balancer is employed with other charger than X-15 series chargers every basic function operates normally except the safety function and monitoring the individual voltages provided by X-15 charger.

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